

-- REMARKS --

The present amendment replies to an Office Action dated July 21, 2008. Claims 1-13 are pending in the present application. Claims 1, 12, and 13 have been amended herein. In the Office Action, the Examiner rejected claims 1-13 on various grounds. The Applicants respond to each ground of rejection as subsequently recited herein and requests reconsideration of the present application.

35 U.S.C. §103 Rejections

Obviousness is a question of law, based on the factual inquiries of 1) determining the scope and content of the prior art; 2) ascertaining the differences between the claimed invention and the prior art; and 3) resolving the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See MPEP 2143.03. The Applicants respectfully assert that the cited references fail to teach or suggest all the claim limitations.

A. Claims 1-3 and 5-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,479,187 to Chen (the *Chen* patent) in view of U.S. Patent No. 7,034,895 to Okunuki, *et al.* (the *Okunuki* patent).

The Applicants respectfully assert that the *Chen* patent and the *Okunuki* patent, alone or in combination, fail to disclose, teach or suggest each and every element of the Applicants' invention as claimed, as required to maintain a rejection under 35 U.S.C. §103(a). The *Chen* patent and the *Okunuki* patent fail to disclose:

a method for enhancing brightness and contrast in images wherein the light intensity supplied by said lamp (3) to the parts of said image is determined from the maximum brightness in said image, as recited in amended independent claim 1;

an image processor including means for determining the light intensity supplied by said lamp (3) to the parts of said image from the maximum brightness in said image, as recited in amended independent claim 12; or

a regulation and controlling system for a projection-based presenter wherein the light intensity supplied by said lamp (3) to the parts of said image is determined from the maximum brightness in said image, as recited in amended independent claim 13.

At most, the *Okunuki* patent discloses detecting the average luminance level for one frame (or one field) of the video signal, and outputting an amplification coefficient depending on the detected average luminance level. The APL detection circuit obtains the average picture level (APL) of the luminance level of the video area in the entire video signals of one frame (or field). These operations are, for example, realized using a well-known integrator circuit. See Abstract; column 6, lines 52-64. In the Response to Arguments section on Page 10 of the present Office Action dated July 21, 2008, the Examiner asserted that the *Okunuki* patent must find the maximum and minimum luminance levels to obtain the average luminance level, so that the *Okunuki* patent implicitly uses the maximum value to determine the relative brightness of the parts. The Applicants respectfully disagree. While the maximum and minimum luminance levels in the *Okunuki* patent are data points that enter into calculation of the APL, the *Okunuki* patent uses the maximum luminance level for nothing further. All the data points over the frame are summed, such as by using the disclosed well-known integrator circuit. The magnitude of the maximum luminance level only has a minor effect on the APL and fails to determine anything.

In the present application, the image controller 8 first analyses the profile of the maximum brightness of the received image. The determined decreased or increased power for all horizontal lines of one image form a lamp power profile, which is forwarded by the image controller 8 to lamp power regulator 2. A corresponding lamp power profile, which was determined based on the brightness profile of FIG. 3, is depicted in the diagram of FIG. 4. The diagram shows an optimised power profile for the case that the maximum pixel aperture is 100% in each of about 350 rows. A first curve 41 indicates the lamp power determined for all rows.

The lamp power is normalised with the maximum lamp power used, i.e. the maximum lamp power corresponds to a value of 1. *See* Figures 1, 3, and 4; page 6, line 24 through page 7, line 32.

Claims 2, 3, and 5-11 depend directly or indirectly from independent claim 1 and so include all the elements and limitations of independent claim 1. The Applicants therefore respectfully submit that dependent claims 2, 3, and 5-11 are allowable over the *Chen* patent and the *Okunuki* patent for at least the same reasons as set forth above for independent claim 1.

Regarding dependent claim 2, the *Okunuki* patent discloses that the light quantity of the light source is reduced when the displayed image is dark, but fails to disclose the average light intensity over time supplied by said lamp (3) for an entire image is kept constant, as claimed. *See* column 5, lines 12-19.

Regarding dependent claim 3, the *Okunuki* patent discloses level control means for detecting average brightness of the displayed image according to the video signal, and controlling the level of the reference signal output from the light quantity control means depending on the detected brightness, but fails to disclose the light intensity supplied by said lamp (3) is adjusted for each horizontal line, as claimed. *See* column 4, lines 4-8.

Regarding dependent claim 7, the *Chen* patent discloses an LCD operating effectively as a light valve (thus it is referred to as a "passive" display device), allowing transmission of light in one state and blocking transmission of light in a second state, but fails to disclose the maximum aperture in each of said rows is adjusted to 100%, and the other apertures of each of said rows are adapted such that a non-distorted brightness reproduction is maintained in each row, as claimed. *See* column 1, lines 18-22.

Regarding dependent claim 8, the *Okunuki* patent fails to disclose determining the maximum brightness of an image that is to be projected in each scrolling position; adjusting the apertures of said display panel (5) for each scrolling position in accordance with said image in a way that the maximum aperture is 100%; determining for each scrolling position the relative

power which has to be provided to said lamp (3) for achieving said determined maximum brightness with said maximum aperture of 100% while maintaining the relation to the brightness of the other image parts; scaling the overall power level such that the average power of the lamp corresponds to a rated power level, as claimed.

Regarding dependent claim 10, the *Chen* patent discloses an LCD operating effectively as a light valve (thus it is referred to as a "passive" display device), allowing transmission of light in one state and blocking transmission of light in a second state, but fails to disclose an image processor (8) for receiving an image that is to be projected and for controlling the power supply (2) to said lamp (3) and the size of said adjustable apertures of said display panel (5) according to a received image, as claimed. *See* column 1, lines 18-22.

Withdrawal of the rejection of claims 1-3 and 5-13 under 35 U.S.C. §103(a) as being unpatentable over the *Chen* patent in view of the *Okunuki* patent is respectfully requested.

B. Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over the *Chen* patent in view of the *Okunuki* patent and further in view of U.S. Patent No. 6,739,723 to Haven, *et al.* (the *Haven* patent).

The Applicants respectfully assert that the *Chen* patent, the *Okunuki* patent, and the *Haven* patent, alone or in combination, fail to disclose, teach or suggest each and every element of the Applicants' invention as claimed, as required to maintain a rejection under 35 U.S.C. §103(a). As discussed in Section A above, the *Chen* patent and the *Okunuki* patent fail to disclose:

a method for enhancing brightness and contrast in images wherein relative brightness of the parts of said image is determined from the maximum brightness in the parts of said image, as recited in amended independent claim 1.

The *Haven* patent also fails to disclose these elements.

Claim 4 depends directly from independent claim 1 and so includes all the elements and limitations of independent claim 1. The Applicants therefore respectfully submit that dependent claim 4 is allowable over the *Chen* patent, the *Okunuki* patent, and the *Haven* patent for at least the same reasons as set forth above for independent claim 1.

Withdrawal of the rejection of claims 1-3, 12, and 13 under 35 U.S.C. §103(a) as being unpatentable over the *Chen* patent in view of the *Okunuki* patent and further in view of the *Haven* patent is respectfully requested.

SUMMARY

Reconsideration of the rejection of claims 1-3, 12, and 13 and consideration of claims 4-11 is requested. The Applicants respectfully submit that claims 1-13 fully satisfy the requirements of 35 U.S.C. §§102, 103, and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested.

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Respectfully submitted,
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